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ABSTRACT

Demographic data were collected from college students and their graduate teaching assistant (GTA) instructors and analyzed for the impact of these characteristics on the students' ratings of teacher communication effectiveness. Data collected from the approximately 1,000 students and 60 GTAs included age, sex, ethnicity, socioeconomic status, home state or region, father's education level, and mother's education level. In addition, students provided data concerning year in school, major and minor, and anticipated grade in the targeted class. Teaching situational data collected from GTAs included subject taught; course level; class size; years of teaching experience, both in general and in the targeted course; and amount and type of teacher training in the subject area as well as speech communication. Students also completed an instrument measuring their opinions of their teachers' organizational stability, instructional adaptability, and interpersonal inflexibility. Canonical correlations performed on the data yielded a number of conclusions, among them that students rated female GTA instructors more heavily in their instructional adaptability and interpersonal inflexibility than they did males, and that female students tended to rate teachers more on those same dimensions. Male instructors were rated more on their organizational stability. (FL)

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A Demographic Analysis of Students and their GTA Instructors

by

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ABSTRACT: Demographic data are often collected for a study, but the results are not always analyzed and the results reported. This study described a Graduate Teaching Assistant (GTA) population and their students. The demographics were submitted to a series of canonical correlations to determine the relationships among the teacher demographic characteristics, student demographic characteristics, and situational characteristics. Results indicate that female GTA instructors are rated more heavily on their instructional adaptability and interpersonal inflexibility than are males, and that female students tend to rate teachers more on those same dimensions. Males are rated more on their organizational stability.

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A Demographic Analysis of Students and Their GTA Instructors

Demographic data are often collected to ascertain the impact of these characteristics on other ratings. In the present study, demographic data were collected from both students and their Graduate Teaching Assistant (GTA) Instructors and analyzed for their impact on the students' ratings of their teacher's ratings of communication effectiveness.

It is possible that effectiveness ratings by students may be biased by demographic variables wholly or partially unrelated to communication behaviors of instructors in the classroom. For example, ratings might be an artifact of ethnic, sex, or age bias that has no bearing on the instructors' behaviors. Daly and Korinek (1980), for example, cite a number of studies which show that demographic data are important predictors of classroom talk. Included in their review are such student factors as social class, sex, and race and such teacher characteristics as teaching experience, sex, "personal regard," and use of humor in the classroom. Other factors found to be significant predictors of classroom talk include: class size, subject matter, acquaintance time with the instructor, and seating arrangement. While an effect for such factors is not predicted in this study, it is possible that such factors are important in determining which teachers are rated as effective and which are rated as less effective.

This study was concerned with the specific behaviors that teachers perform which lead to student perceptions of communication effectiveness. As Ryans (1961b) points out, educational research is interested in these behaviors for the results they produce; therefore, it is necessary to determine that a teacher's behaviors and not some demographic variable(s) not directly related to teacher behaviors cause the ratings.

The demographic variables analyzed in this study were ones that demonstrated some relationship to teacher effectiveness ratings in prior research. Judgments were not made based on the consistency of the previous findings and only those that appeared to be important to college classrooms were included.

Based on the findings of Bledsoe et al. (1971), student sex, grade level, age, and course grade were considered important demographics to assess. They also found significant differences for the subject being taught, as well as teacher experience, age and sex. In addition, Williams (1975) found that social origins (ethnicity, socio-economic status, father's educational level, mother's educational level) are important determinants of one's growth educationally. Nussbaum (1981) reported that a teacher's effectiveness was a function of an overall style of communication, age, and sex, and McKeachie (1969) reported that class size may make a difference. Although Kulik and McKeachie (1975) do not agree with the importance of all of the above student and teacher characteristics, they do indicate that student ratings of an instructor are predictable from a knowledge of student and teacher characteristics as well as situational variables such as course level, class size, whether a course is required or an elective, and the subject being taught.

Therefore, age, sex, ethnicity, socio-economic status, home state or region, father's education, mother's education, year in school, major(s) and minor(s), anticipated grade in the class; and whether the class is required, recommended, or an elective were collected from students. Teacher demographics collected include: age, sex, ethnicity, socio-economic status, home state or region, father's educational level, and mother's educational level. Situational variables collected include: subject, course level, class size, years of teaching experience both in general and specific to the current course, and teacher training in both subject matter and in teacher training as well as speech communication.

The demographic data were analyzed to describe both student and GTA populations as well as the teaching situation. However, simply knowing that certain GTAs were rated as effective and that others were not is insufficient. In the case of teacher communication effectiveness ratings, teachers are not rated as totally effective or totally ineffective. Rather, a person displays some degree of proficiency in several areas which produce "more effective" and "less effective" ratings. In those instances where demographic variables contribute substantially to the overall ratings of instructors, it is necessary to determine how much each variable contributes to the overall rating. Therefore, canonical correlations were used to discover the contributions of the sets of demographic variables to determining communication effectiveness of the GTAs. Canonical correlations were used because it is impossible to tell from previous research which demographic variables might relate directly to student ratings of teacher communication effectiveness. Thus, each set was analyzed separately to assess the relationship of student demographics, teacher demographics, and situational demographics to the dependent variable set. Then the best predictors of each independent set were combined in the final canonical analysis to determine the best overall demographic predictors of the dependent variable set.

Teacher Population Description

The teachers in this study were twenty-six females and thirty-four males from eighteen departments and four colleges at UNL. The greatest proportion of the teachers (43.3%) were between the ages of twenty-five and thirty with an average age of approximately twenty-six. The teachers classified themselves predominantly

as "middle class" (56.7%)--none classified themselves as "upper class." Ethnically, fifty-eight (96.7%) were caucasian and two (3.3%) were oriental.

The teachers came from twenty different states and five foreign countries. They taught fifteen different subjects, mostly at the freshman and sophomore levels, but with 36.6% at the upper class level (mostly classes in Management and Speech Communication). The average class size was 26.2 with a median of 24.7 and a range from nine to one hundred.

The average length of time for having taught the class surveyed was 2.13 semesters. One teacher had taught the same class as many as four semesters, one five semesters, one six semesters, one seven semesters, and one eight semesters. The average teacher has taught 3.767 years, but the range was from one semester to seventeen years. The mode was 1.0 year with nineteen teachers having taught only one year.

Teacher preparation produced a larger range than most of the other demographic data, causing some problems in describing the teacher population. First, credit hours in the subject taught ranged from zero to 120; the mean was 47.8 with a median of 48.5. Three teachers did not respond to this question. Second, the range of credit hours in teacher training or educational psychology was zero to seventy with a mean of 10.5 and a median of 3.5. Twenty-seven teachers reported no teacher training or educational psychology classes and one teacher commented "I'm proud to say" after so reporting. One other teacher noted that his educational classes were statistics and not regular teacher training hours. Finally, the number of credit hours in speech communication ranged from zero to 120, with a mean of 19.08 and a median of 3.06. Nineteen teachers reported no training in speech communication. The results of this data may be somewhat skewed by the fact that eleven of the subject teachers are speech communication majors. With those eleven scores eliminated, the mean drops to 3.79. Only three instructors who were not speech communication majors had more than six credit hours in speech communication.

Student Population Description

The students who took part in this study were 1201 individuals from a selected class of the teacher population. Of these, twenty-one surveys had to be eliminated from the study.

The students who completed the survey were 494 females, 659 males, and 27 students who did not identify their sex. The majority of the students (53.5%) were between the ages of eighteen and twenty with a mean age of approximately nineteen and a half. The predominant social class was middle class (52.5%). Ethnically, 93.2% were caucasians.

These students come from thirty-four states and several foreign countries. The vast majority, however, were residents of Nebraska (990). They list eighty-five majors and minors as either a first or second choice. Because of considerable overlap between majors and minors, the total of different majors and minors combined is 94. These can be grouped into eight broad categories: 4.9% had a major in the arts, 32.8% in business or business-related areas, 9.2% in the education field, 15.2% in engineering, 4.4% in the medical/legal professions, 4.8% in natural and food sciences, 12.3% in physical and mathematical sciences, and 1.5% in the social sciences. In addition, 6.0% had not declared a major. A note of interest here is the high number of students who list a business or business-related major. This number can be accounted for by the high number of business classes used in the study plus seven sections of business majors in Speech Communication 311--Business and Professional Speaking. Overall, fifteen sections of students were used whose teachers were teaching a business-related course.

The student population was very evenly divided among Freshmen (26.4%), Sophomores (23.1%), Juniors (24.9%), and Seniors (20.6%), five percent did not

respond to the question. Part of the even distribution can be accounted for by the fairly large number of 300 and 400-level classes from Management and Speech that were used.

The average grade students anticipated was 9.71 (B+). While 28.6% expected a B, 17.6% expected a B+ and another 29.8% expected an A. Further analysis indicates that the course they were taking was required for 66.5% of the students; 19% said it was an elective and 12% said it was a recommended course. The results here may be somewhat skewed by students who feel that a course is "required" if they have to take a course in a certain area (English, for example) but are not required to take a specific course in that area.

Dependent Variable

The dependent measure in this study was a three-factor instrument determined by a factor analysis in a previous study (Daniel, 1981). Factor 1 (Organizational Stability) consists of thirteen variables identified as organization or consistency. A second-order factor analysis produced a single factor solution capturing both organization and consistency or stability. Factor one includes such variables as "My instructor is organized" and "My instructor is consistent." Factor 1 Alpha reliability coefficient was .91.

Factor 2 (Instructional Adaptability) consists of eighteen variables identified as openness to instructional approaches. A second-order factor analysis produced a three-factor solution capturing adaptability of the instructor, instructional concern and flexibility. Factor two includes such variables as "My instructor is open to student ideas," "My instructor shows interest in student opinions," and "My instructor encourages student participation." Factor 2 Alpha reliability coefficient was .89.

Factor 3 (Interpersonal Inflexibility) consists of eleven variables identified as an interpersonal climate in the classroom. A second-order factor analysis produced a two-factor solution capturing the negative interpersonal climate and the rigidity or inflexibility of the instructor. Factor three includes such variables as "My instructor tells sexist jokes," "My instructor puts students down," and "My instructor avoids answering student questions." Factor 3 Alpha reliability coefficient was .81.

Results

A series of conanical correlations were computed in an attempt to determine the nature of the relationships among the teacher demographic characteristics, the student demographic characteristics, the situation characteristics, and the factors produced by the factor analysis.

In the first canonical correlation analysis, teacher demographic variables (sex, age, social class, ethnicity, home state, country of citizenship, father's educational level, and mother's educational level) were entered as the independent variables set and Factor 1 (organizational stability), Factor 2 (instructional adaptability) and Factor 3 (interpersonal inflexibility) were entered as the dependent variable set. These three factors were determined from factor analyzing 114 teacher behaviors and are fully explained in another work (Daniel, 1981). This canonical correlation produced one canonical root that approached significance. Table 1 is a summary of the canonical correlation. The canonical root produced a correlation of .62 with a Chi-Square of 33.7 with 24 degrees of freedom ($P < .089$). The canonical variate produced two variables in the second set (teacher's sex [-.59]

and educational level of the teacher's mother [.70] and factors two [.88] and three [.66] in the first set.

Put Table 1 here

The second canonical correlation analysis related the three factors of the dependent variable set and student demographics (sex, age, social class, ethnicity, home state, major, father's educational level, mother's educational level, year in school, anticipated grade in the class, and class standing) as the independent variable set. This analysis produced two canonical roots of significance and a third canonical root that approached significance at the .07 level. Table 2 is a summary of the canonical correlations.

The first canonical root produced a canonical correlation of .26 with a Chi-Square of 145.97 and 33 degrees of freedom ($P < .000$). The second canonical root produced a correlation of .21 and a Chi-Square of 65.87 with 20 degrees of freedom ($P < .000$). The first canonical produced three variables in the second set, student's year in school [.97], anticipated grade in the course [-.43] and student's age [-.38] and factors 1 [-.93] and three [.43] in the first set. The second canonical produced two variables in the second set (student sex [-.71] and anticipated grade in the course [.45] and factors two [.70] and three [.59] in the first set.

Put Table 2 here

In the third canonical correlation analysis, the three factors were again entered as the dependent variable set and contextual variables (subject, course level, number of students in the class, semesters the teacher had taught, semesters

the teacher had taught the course, credit hours in the subject matter, credit hours in education, and credit hours in speech communication) were entered as the independent variable set. This canonical correlation produced two canonical roots of significance. Table 3 is a summary of the canonical correlations.

The first canonical root produced a canonical correlation of .71 with a Chi-Square of 65.97 with 24 degrees of freedom ($P < .000$). The second canonical root produced a canonical correlation of .59 with a Chi-Square of 29.4 and 14 degrees of freedom ($P < .009$). The first canonical produced one variable in the second set (credit hours in Speech Communication [-1.05] and Factor three [.92] in the first set. The second canonical produced two variables in the second set (course level [-.88] and subject [.50] and Factor one [1.03] in the first set.

Put Table 3 here

The fourth cononical correlation related the three factors of the dependent variable set with the variables of significance in the first three canonical correlation analyses (student sex, student age, student year in school, anticipated grade in the course, teacher sex, educational level of the teacher's mother, subject, course level, and credit hours in Speech Communication) as the independent variable set. This procedure produced three canonical roots of significance. Table 4 is a summary of the fourth cannical correlation.

The first canonical root produced a correlation of .44 with a Chi-Square of 492.04 and 27 degrees of freedom ($P < .000$). The second canonical root produced a correlation of .34 with a Chi-Square of 240.01 and 16 degrees of freedom ($P < .000$).

The third canonical root produced a correlation of .28 with a Chi-Square of 94.72 and 7 degrees of freedom ($P < .000$).

The first canonical produced two variables in the second set (course level [-.71] and credit hours in Speech Communication [-.35]) and two variables in the first set (Factor one [.85] and Factor two [-.52]). The second canonical produced three variables in the second set (credit hours in Speech Communication [-1.02], subject [-.47], and level [.44]) and Factor two [-.67], Factor three [.56], and Factor one [-.51] in the first set. The third canonical produced two variables in the second set (teacher's sex [-.57] and student's sex [-.43]) and two variables in the first set (Factor three [.82] and Factor two [.52]).

Put Table 4 here

Discussion and Conclusions

Teacher. In the first canonical correlation, one variate approached significance at the .09 level. In that canonical, two variables (educational level of the teacher's mother and teacher's sex) were the variables of importance in the second set and instructional adaptability and interpersonal inflexibility were the variables of significance in the first set. It seems that the higher the educational level of the teacher's mother, the more highly the teacher would be rated on instructional adaptability and interpersonal inflexibility. The negative correlation of teacher's sex with these two factors indicates that females are rated more highly on their instructional adaptability and interpersonal inflexibility than are males.

These results are not entirely surprising. Although some early research did not investigate sex differences, several studies have investigated the relationship

of instructor sex to student ratings with mixed results. Some studies have found no significant differences in the ratings of female and male teachers (Bendig, 1953; Downie, 1952; Heilman & Armentrout, 1936; Remmers, 1939). On the other hand, Bendig (1952) reported that female students were more critical of male instructors than were male students, and Walker (1969) found that female students rated female instructors significantly higher than they rated male instructors. McKeachie, Lin and Mann (1971) reported that teachers rated high on "skill" and "structure" tended to be more effective with female students. In addition, Bledsoe, Brown and Strickland (1971) reported that males gave high ratings to male teachers and females gave higher ratings to female teachers. More recently, Nussbaum (1981) found that teacher effectiveness is a function of teacher communicator style, age, and sex. In short, teacher's sex has been found to make some difference in some studies--depending on the nature of the study.

Of importance in this study is that the female teachers were found more positively rated on instructional adaptability and somewhat less on interpersonal inflexibility rather than on organizational stability. This is the opposite result of the McKeachie et al. (1971) study. A part of the differences may be accounted for by the fact that the McKeachie et al. (1971) study used a small number of teachers for each study and used psychology teachers for three of the studies, French teachers for one study, and economics teachers for one study. The current study combined twenty-six female and thirty-four male teachers from eighteen different departments. Possibly there are differences in the population that McKeachie et al. (1971) could not capture from their limited study. Also, McKeachie et al. (1971) never indicated the number of male and female instructors, so the ratio or bias in their studies may account for these differences.

The results of other research has not been convincing. For example, Bendig (1952) used only two teachers. The limited number of teachers makes the results too limited to justify generalizations to the population of teachers. Other studies like Bendig (1952; 1953) have used teachers in limited areas and the results, likewise, may not generalize to the college population. The only study that used instructors from a number of departments and a fairly broad population (Rayder, 1968) found no substantial differences for student sex, age, grade level, major, or GPA. The report did not look at the teacher variables, so no direct comparisons can be made.

Although mother's educational level has been studied before (Williams, 1975), no significant results were reported. In this study, the educational level of the teacher's mother was the first (strongest) predictor of instructional adaptability and interpersonal inflexibility. However, because the canonical itself was not significant, this finding must be interpreted with care.

Student. The second canonical correlation produced two canonical variates of significance ($p. < .01$) and a third canonical variate that approached significance at the .07 level. In the first variate, three variables (student's year in school, expected grade in the class, and age) were the important variables in the second set and organizational stability, and to a lesser extent, interpersonal inflexibility in the first set.

Studies in the past dealing with student characteristics have also reported mixed results. Some studies have found the student's year in school to be a significant predictor of student ratings (Bendig, 1952; Downie, 1952; Walker, 1969) while others have found that class standing makes no significant differences to student ratings (Heilman & Armentrout, 1936; Marsh, 1980; McKeachie & Solomon,

1958; Rayder, 1968, Steward & Malpass, 1966).

One possible reason for the mixed results might be the biased samples of the studies. For example, Bendig (1952) used only two instructors. It is possible that the specific teachers used or the students in those classes formed a very biased sample. The Walker (1969) study used Junior College students, which again may have biased the sample. Heilman and Armentrout (1936) were concerned with ten teacher traits, and possibly this focus has caused student characteristics to be meaningless. On the other hand, Rayder (1968) used eighty-seven instructors from a number of departments and found no significant differences, while Stewart and Malpass (1966) also had a large number of instructors and found no significant differences. However, there is a possibility of bias in the Stewart and Malpass study in that they may have received surveys only from the teachers who felt they would be rated highly. The present study found differences with a moderate sized sample of GTA instructors from a number of departments; however, these results may be somewhat biased in that the teachers were all GTAs, not regular faculty members.

Teachers tend to believe that student grades make a difference in how students evaluate their instructors (Remmers, 1928). If that were the case, it seems than that simply giving high grades to students would yield high teacher evaluations. It is also a common belief that GTAs give higher grades than do faculty members (Mintzes, 1980). If that also were true, then this study should show a significant result for grades. In the past, however, the number of studies finding significant correlations between grades and evaluations is small. Deshpande, Webb, and Marks (1970), for example, found that Engineering students prefer competence and high standards as opposed to high grades. They also like organized instructors. Mintzes (1980) found much the same attitude among students with six GTA instructors in psychology. No significant differences were reported by others (Downie, 1952;

Heilman & Armentrout, 1936; Mann, 1969; Rayder, 1968; Remmers, 1930; Voeks & French, 1960). The present findings support a relationship between grades and teacher evaluation. Students tend to rate in the direction of their anticipated grade (Korth, 1979; Marsh, 1980; Morsh, Burgess, & Smith, 1956; Stewart & Malpass, 1966; Walker, 1969; Weaver, 1960; Yonge & Sassenrath, 1968). At least for some instructors, course grades seem to be a predictor of teacher evaluations.

It appears, then, that either students base their evaluations of a teacher's organization on their anticipated grade in a course, or better organization leads to a prediction of higher grades. The preponderance of studies in this area are recent and show only a slight relationship between grades and teacher evaluation. It may be that college students are too sophisticated or possibly objective enough not to base their judgments solely on their anticipated grades. This study tends to confirm those conclusions.

The second significant canonical correlation produced two variables in the second set (student sex and, to a lesser extent, grade expected in the class) and two variables in the first set (instructional adaptability and, to a lesser extent, interpersonal inflexibility). These results, like the previous ones, are not totally unexpected; the results seem to be mixed depending on the study conditions or the interpretations. For example, Bendig (1953), Heilman and Armentrout (1936), and Rayder (1968) report no differences for sex of students. Walker (1969) says that there are no differences, but adds that females do tend to rate female instructors higher than do male students. Bendig (1952) says that female instructors are rated more favorably, but the study consisted of only two instructors so the results need to be interpreted carefully. Additionally, Isaacson, McKeachie, and Milholland (1963) did find significant differences between males and females and their ratings

of their instructors. This predictor seems to be of the interpersonal nature and is closely related to the "rapport" factor of Mintzes (1980) and the teacher "personality" factor of Mann (1969). Thus, it seems that for females there is a relationship between a teacher's effectiveness and a teacher's ability to instructionally adapt or be interpersonally flexible as females tend to judge instructors more than do males on the "personality" factors or the interpersonal relationships that develop in the classroom.

Contextual. In the third canonical correlation, the situational variables were analyzed with the factor scores. Two canonical variates of significance were found. In the first canonical variate, one variable of significance was found in each set. The teacher's credit hours in speech communication was a strong predictor of a teacher's interpersonal inflexibility. In the second significant variate, subject level (freshman, sophomore, junior, senior) and to a lesser extent the subject matter taught and credit hours in speech communication predict organizational stability.

Teaching conditions have been studied previously, with such variables as course level, class size, class convenience or location, elective or required classes being occasionally significant. Again, the results have been mixed. Gage (1961) found significant differences for course level, class size, class location, and elective versus required classes. Rayder (1968) did not find those differences. Others have found class size to make a difference (Downie, 1952; Heilman & Armentrout, 1936; Korth, 1979; Lovell & Haner, 1955; McDaniel & Feldhusen, 1971). Goodhartz (1948) failed to find the same relationship. There are any number of reasons for either finding or not finding this relationship. Perhaps the variance in class size was

not sufficient to find differences, or the classes were artificially dichotomized in some manner or perhaps it was a unique characteristic of the test group. In the case of the present study, it is possible that the differences were not significant because of the small number of large classes. There were only seven classes with forty or more students in them and only two of those had over fifty students. Most of the classes were either small (below twenty students) or moderate (twenty-one to forty) in size. the mean class size was 26.21, so this possibly was not an adequate test of the class size issue.

On the elective versus required issue, the same argument may be made. Downie (1952) found only a slight difference. In this study, 66.5% of the students reported that the course was required and only 19% considered the course an elective. With such an uneven split between groups, the results may not be totally clear. A more even split may produce more accurate results. This may well explain why Bendig (1952) found that the academic level of a course did make a difference, while Heilman and Armentrout (1936), Rayder (1968), and Walker (1969) did not find course level to make a difference. The somewhat even split in this study 26.4%, freshman; 23.1%, sophomore, 24.9%, junior; and 20.6%, senior; 5% did not respond) provides sufficient members of each class to provides a better test than if most of the members were from one or two classes.

Subject matter has not produced significant differences (Heilman & Armentrout, 1936) except for Rayder (1968) who used eighty seven instructors and included the department in part of a multiple regression equation and Walker (1969) who found math and science teachers to be rated higher. It may well be that the unequal combinations of students and teachers can produce a difference. It may also be that certain colleges or departments have good or bad reputations and this reputation among students

may cloud a student's evaluation of a teacher from that department or college. On the other hand, it may be that a student's prior interest in the subject matter is critical to a judgment about the teacher, as a couple of recent reports have shown (Korth, 1979; Marsh, 1980).

Speech training has not been assessed in previous research on general teaching, but it does seem that there is a relationship. The relationship is strong with interpersonal inflexibility in that less credit hours in speech strongly predicts high ratings on interpersonal inflexibility. There is also some relationship with organizational stability, although it is not as strong. Note that little speech training is a strong predictor of interpersonal inflexibility while some training (positive loading) is somewhat predictive of organizational stability.

It might be argued that this is an obvious finding for this study since it is attempting to determine the behaviors of teacher communication effectiveness. It might also be argued that this finding helps validate the other findings. Since the instrument used to collect the data was created by students as their perceptions of the concept, it serves to indicate that the concept was reported by the other students. This result provides some support for the conclusion that the behaviors are linked to the factors which were reported earlier as constituting Teacher Communication Effectiveness. This result also supports the contention of Kulik and McKeachie (1975) that the good teacher is a good communicator.

A finding that is a surprise here is that the other experiences of the teacher do not predict the three factors. Downie (1952) found experienced teachers to be perceived as more organized, for example. Walker (1969) reported that experienced teachers received better ratings than inexperienced teachers. But Heilman and Armentrout (1936) reported that a teacher's experience did not make a difference.

As Marsh (1980) reported, there are a number of variables we might expect to affect students evaluations of teachers which seem to make little difference for them. It may well be, then, that for some teachers and for some students, these variables may be important, and for others they are not. A teacher, for example, who has not learned from past experience in the classroom to organize materials and present them clearly and concisely may still be rated as less effective than one with less experience who has learned those skills. Likewise, the less experienced teacher who has learned to organize and present materials clearly and concisely, may be rated higher, even if that teacher has not had a number of classes in speech communication to help prepare for it. Therefore, it is the "total picture" of the teacher, the sum of all of the parts as students see them, that contribute to the student evaluation and not certain traits or characteristics as they are separated from the composite.

Combined. A separate canonical correlation was calculated using the variables in the first three canonicals that were reported as significant or approached significance. Three canonicals of significance ($p < .001$) were produced. The first canonical variate has two variables in the second set (course level and to a lesser extent credit hours in speech communication) and two variables in the first set (organizational stability and to a lesser extent instructional adaptability). The only change from the previous correlation is that factor two is added. It seems that the lower the course level, the more predictable the teacher evaluation on factor one (organizational stability) and to a lesser extent factor two (instructional adaptability). As students progress, they perhaps become more adept at evaluating teaching, more sophisticated in their assessments of teaching skills, or possibly are just able to separate the independent variables more. But lower level students

rely mostly on the teacher's organizational skills and secondarily, the instructor's ability to adapt.

In the second canonical variate, the variables of importance are credit hours in speech communication and to lesser extents subject matter and course level and all three factors in the first set. This relationship further attests to the importance of training in speech communication to obtain high ratings in teacher communication effectiveness. Note that low credit hours in speech predict negative ratings for organizational stability and instructional adaptability, but positive ratings for interpersonal inflexibility. This indicates that instructors who do not have many credit hours in speech are rated lower on their organizational skills and instructional adaptability than instructors with more credit hours in speech. The obverse is true of interpersonal inflexibility in that few credit hours in speech predict high ratings of interpersonal inflexibility.

One explanation for lower course level predicting low scores in organizational stability, instructional adaptability, and interpersonal inflexibility is that new GTAs are usually assigned to lower level classes and as they gain experience, they progress to higher level classes. The maturation of the instructor as well as the experience gained makes the instructor more organizationally stable, more instructionally adaptable, and more interpersonally flexible. The new graduate student may not be organized for a couple of reasons: (1) s/he may be preparing to teach for the first time, (2) s/he may be preparing for graduate classes also for the first time, and (3) s/he may not be an organized person. It is also possible that all three are contributors to the overall perceptions of students.

The new GTA may be perceived as instructionally unadaptable because frequently s/he teaches for a course director who coordinates the duties of a number of GTAs.

Because of the nature of the course, the director prepares a common syllabus and dictates what the GTA is to perform as well as when it is to be performed. Because there are certain lessons to be covered in a prescribed manner and at a prescribed time, it appears that the instructor is not adapting to the class or to immediate situations. Being new to teaching and graduate study, the new or inexperienced GTA likely does not know how to adapt to the situation and stay within the guidelines that have been presented.

In addition, new GTAs may be perceived as interpersonally inflexible because they lack experience in dealing with students from a teacher's perspective. While most people refrain from putting other people down, telling sexists jokes, etc., the new and inexperienced GTA may not have the professional background to know when these or some other behaviors are being perceived as interpersonally inappropriate for the classroom. It is also possible that something said as a joke or in jest can be taken seriously by some students. Thus, potential reasons for course level being significant in this study are many.

In the third canonical variate, three variables were important. The first is teacher sex, then student sex, and to a lesser extent, the educational level of the teacher's mother. The variables in the first set are interpersonal inflexibility and to a lesser extent, instructional adaptability.

Note again the negative loadings on teacher sex and student sex. These negative loadings indicate that female teachers tend to be evaluated more on the basis of their interpersonal inflexibility and their instructional adaptability, and that female students tend to base their ratings of instructors more on a teacher's interpersonal inflexibility and instructional adaptability than do male students.

The educational level of the teacher's mother indicates that teachers with mothers of high educational levels will tend to be rated more highly on their

interpersonal inflexibility and instructional adaptability. This could indicate that the mothers gained some specific educational skills in their training and have passed them on to their offspring. The more formal education the mothers have, then, the more interpersonal skills they have gained and imparted to their children. On the other hand, it may be some extraneous factor that just happens to be true of this specific sample. Nevertheless, teachers cannot control this factor, thus we need not to be overly concerned with trying to determine the mother's educational level of teachers unless it can be proved elsewhere that this is of great importance in the teaching-learning process.

Table 1

Canonical Correlation with teacher variables

Variance	Canonical Correlation	Wilks Lambda	Chi-Square	df	Significance
0.38492	0.62042	0.52873	33.77522	24	0.089

Second Set		First Set	
Variable	Canvar 1	Variable	
Sex	-0.58644	Factor 1	-0.08385
Age	0.21769	Factor 2	0.88389
SC	0.10497	Factor 3	0.65653
Ethnic	-0.15754		
Home	-0.03041		
Cit	-0.16739		
FED	-0.36476		
MED	0.70014		

Table 2

Canonical Correlation with Student data

Number	Variance	Canonical Correlation	Wilks Lambda	Chi-Square	df	Significance
1	0.06637	0.25761	0.88238	145.96866	33	0.000
2	0.04204	0.20503	.94510	65.86526	20	0.000

Coefficients for canonical variables of the second set

Variable	CANVAR 1	CANVAR 2
SEX	-0.20629	-0.71271
AGE	-0.38188	0.14402
SC	0.00316	0.12039
ETHNIC	-0.24231	-0.03078
HOME	0.24782	0.17209
MAJOR	0.10780	-0.06384
FED	0.07750	-0.09121
MED	0.09587	0.30687
YEAR	0.97499	-0.25828
GRADE	-0.42839	0.44736
CLASS	0.34253	0.12799

Coefficients for the first set

	CANVAR 1	CANVAR 2
Factor 1	-0.92795	0.30588
Factor 2	0.09475	0.70286
Factor 3	0.43351	0.59529

Table 3

Canonical Correlation with contextual variables

Number	Variance	Canonical Correlation	Wilks Lambda	Chi-square	df	Significance
1	0.49838	0.70596	0.28804	65.96735	24	0.000
2	0.34644	0.58859	0.57422	29.40152	14	0.009

Coefficients for canonical variables of the second set

Variables	Canvar 1	Canvar 2
Subject	-0.16782	0.49573
Level	0.16571	-0.87792
NOST	0.12212	0.08289
Taught 1	-0.00691	0.17283
Taught 2	0.03620	-0.08787
Cr hrs 1	0.24457	0.18322
Cr hrs 2	-0.04090	-0.01107
Cr hrs 3	-1.05213	0.39203

Coefficients for the first set

	Canvar 1	Canvar 2
Factor 1	0.05018	1.03137
Factor 2	-0.21968	0.10174
Factor 3	0.92269	-0.27253

Table 4

Canonical Correlation with combined variables

Number	Variance	Canonical Correlation	Wilks Lambda	Chi-Square	df	Significance
1	0.19416	0.44064	0.65610	492.04004	27	0.000
2	0.11701	0.34207	0.81418	240.00998	16	0.000
3	0.07793	0.27915	0.92207	94.71889	7	0.000

Coefficients for canonical variables of the second set

Variables	Canvar 1	Canvar 2	Canvar 3
Ssex	0.08852	0.07933	-0.43489
Sage	0.15084	-0.21808	-0.04009
Year	-0.13163	0.18977	0.19635
Grade	0.09155	-0.19007	0.23829
Tsex	0.25311	0.24173	-0.57026
Tmed	-0.21418	-0.09308	0.34408
Subj	0.29457	-0.46822	0.04411
Level	-0.71234	0.43571	0.01178
Cr Hrs 3	-0.35253	-1.02100	-0.25652

Coefficients of the first set

	Canvar 1	Canvar 2	Canvar 3
Factor 1	0.85347	-0.51076	0.12759
Factor 2	-0.52018	-0.67499	0.52476
Factor 3	0.13601	0.56242	0.81862

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